AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A method for the production of a biologically active prosthetic device for the reconstruction of bone tissue, comprising the following steps:
scanning a patient with CAT (Computerised Axial Tomography) ~~scan of the patient and obtaining~~ in order to obtain a three-dimensional electronic model [[(1)]] of [[the]] a part of the bone and of a bone defect [[(2)]] to be reconstructed;
~~creation through prototyping of a~~ on the basis of the three-dimensional electronic model, producing prototype resin model [[(3)]] of [[the]] an area of the patient's bone involved by means of[[,]] ~~for example using the~~ a three-dimensional stereolithographic technique;
by using the prototype resin model, forming [[of]] a model ~~(4), for example by means of "slip casting" forming,~~ of the patient's bone defect [[(2)]] to be reconstructed;
by using the model, forming ~~construction of~~ a negative mould ~~(5), for example using "slip casting" forming,~~ which is a negative of the patient's bone defect [[(2)]] to be reconstructed;
~~production of a ready~~ by using the negative mould, producing a sintered ceramic semi-finished product, the dimensions and shape of the semi-finished product being slightly larger than those of the bone defect, the sintered ceramic semi-finished product having a ~~with~~ controlled and interconnected porosity ~~(30 - 90%) with~~ of from 30 to 90%, said porosity having a bimodal distribution of the pore dimensions in [[the]] a first range of from 0.1 [[–]] to 125 microns and in a second range of from 125 [[–]] to 2500 microns; ~~range;~~
~~the method being characterised in that the semi-finished product obtained by the previous step has dimensions and shape nearing in excess the ones of the bone defect (2); and in that it comprises step of mechanical~~ mechanically processing and ~~manual~~ manually finishing [[of]] the sintered semi-finished product to obtain [[the]] a finished ceramic product having precise dimensions and shape of the bone defect [[(2)]].

2. (currently amended) The method ~~for the production of a prosthetic device~~ according to claim 1, ~~characterised in that~~ wherein the step of ~~mechanical~~ mechanically processing and ~~manual~~ manually finishing [[are]] is carried out by removing excess material using diamond milling cutters which turn at high speed.

3. (currently amended) The method ~~for the production of a prosthetic device~~ according to claim 1, ~~characterised in that~~ wherein the negative mould [[(5)]] of the patient's bone defect comprises means [[(8)]] able to detect any points of contact between the semi-finished product and the mould [[(5)]].

4. (currently amended) The method ~~for the production of a prosthetic device~~ according to claim 3, ~~characterised in that~~ wherein the means [[(8)]] able to detect any points of contact between the semi-finished product and the mould [[(5)]] comprise a coating of tracing paper which ~~can be~~ is coloured at points of contact.

5. (currently amended) The method ~~for the production of a prosthetic device~~ according to claim 1, ~~characterised in that~~ wherein the sintered ceramic semi-finished product is made from ~~material used to make it is~~ a Ca/P compound-based biologically active ceramic material.

6. (currently amended) The method ~~for the production of a prosthetic device~~ according to claim [[1]] 5, ~~characterised in that the material used to make the device is a~~ wherein the Ca/P compound-based biologically active ceramic material is selected from the group consisting of: stoichiometric hydroxyapatite; non-stoichiometric hydroxyapatite: carbonated hydroxyapatite (mainly of type B); hydroxyapatite enriched with magnesium or fluoride or with strontium or sodium; carbonated hydroxyapatite enriched with magnesium; hydroxyapatite/β tricalcium phosphate in proportions of 50% - 50%, 70% - 30%, 30% - 70%; alpha-tricalcium phosphate (αTCP); beta-tricalcium phosphate (βTCP); mixtures of alpha-tricalcium phosphate (αTCP) and beta-tricalcium phosphate (βTCP)~~, the hydroxyapatite-based material which forms the subject matter of patent IT-1 307 292, and the hydroxyapatite-based material which forms the subject mater of patent EP-1 411 035 (and the corresponding application for an Italian patent BO2002A000650)~~.

7. (currently amended) The method ~~for the production of a prosthetic device~~ according to claim 1, ~~characterised in that it comprises~~ further comprising a step of final checking [[of]] the ~~prosthetic device component~~ finished ceramic product, in terms of dimensions and shape, the ~~check~~ checking being carried out on the prototype resin model ~~of the area of the patient's bone involved~~ and by using the negative mould ~~(6 or 7)~~.

8. (currently amended) A biologically active prosthetic device for ~~the reconstruction of~~

reconstructing a bone tissue obtained according to the method [[in]] of claim 1, ~~characterised in that~~ wherein the shape and dimensions derive from a model of the area of the patient's bone involved, said model being obtained using rapid prototyping technology~~, for example stereolithography~~; and ~~also characterised in that it~~ wherein said prosthetic device has a structure with predetermined and interconnected porosity ~~(30 - 90%)~~ of from 30 to 90% with bimodal distribution of the dimensions of the pores in a first range of from 0.1 to 125 ~~the 0.1 - 125~~ microns and in a second range of from 125 to 2500 ~~125 - 2500~~ microns ~~range~~, wherein said prosthetic device is ~~being~~ made of Ca/P-based ceramic synthesis material using technologies for the impregnation/imbibition of porous supports (cellulose, polyurethane, resin), gel-casting, low pressure injection moulding.

9. (currently amended) The prosthetic device according to claim 8, ~~characterised in that it~~ wherein said prosthetic device is made of a ceramic material selected from the group consisting of: stoichiometric hydroxyapatite; non-stoichiometric hydroxyapatite[[:]] ; carbonated hydroxyapatite (mainly of type B); hydroxyapatite enriched with magnesium or fluoride or with strontium or sodium; carbonated hydroxyapatite enriched with magnesium; hydroxyapatite/β tricalcium phosphate in proportions of 50% - 50%, 70% - 30%, 30% - 70%; alpha-tricalcium phosphate (αTCP); beta-tricalcium phosphate (βTCP); mixtures of alpha-tricalcium phosphate (αTCP) and beta-tricalcium phosphate (βTCP)~~, the hydroxyapatite-based material which forms the subject-matter of patent IT-1 307 292, and the hydroxyapatite-based material which forms the subject-matter of patent EP-1 411 035 (and the corresponding application for an Italian patent BO2002A000650)~~.

10. (currently amended) The prosthetic device according to claim 8, ~~characterised in that it~~ wherein said prosthetic device constitutes a support (scaffold) for ~~the attachment of~~ attaching cells and/or growth factors in order to create an osteoinductive effect and/or a support for "drug release" with which drugs and/or chemotherapeutic substances may be associated in medical or oncological therapies.